Fourth Grade
Trailblazers Unit 2

"Geometric Investigations: A Baseline Assessment Unit"

North Carolina Standard Course of Study
http://www.ncpublicschools.org/curriculum/mathematics/scos/2003/k-8/24grade4

MTB Correlation to NCSCOS
http://www.kendallhunt.com/uploads/2/CORR-NC-MTB2.pdf

Unit Activities

- Students use string to explore the perimeter of shapes. They also investigate the area and perimeter of shapes in the imaginary town of Antopolis using square-inch tiles.
- Students find the relationship between length and perimeter for rectangles of fixed width.
- Students design helipads for the Antopolis airport. Each helipad must be a rectangle with a perimeter of 24 inches.
- Students organize collections folders and portfolios, choose one or two pieces for the portfolio, and begin a table of contents.
- Angles are introduced. Students identify acute, obtuse, and right angles.
- Students investigate angles in pattern blocks.

Unit Vocabulary

area	length	perimeter	square inch	unit of measurement
bar graph	best-fit fine	categorical	fixed variable	numerical
perimeter	point graph	variable	width	Helipad
rectangle	square	collection folder	portfolio	Acute angle
Angle	Degree	Obtuse angle	Right angle	Side
vertex				

Fourth grade glossary link: http://www.kendallhunt.com/index.cfm?PID=234&PGI=0

Unit Manipulatives/Supplies

39 inches of string/pair of students	60 square-inch tiles/group	rulers	24-inch piece of wire or string/group	2 folders /student

Calculator	Scissors	2 metersticks		

Unit Assessment Indicators

- Can students use patterns in data tables and graphs to make and test conjectures?
- Can students collect, organize, graph, and analyze data?
- Can students make and interpret point graphs?
- Can students find the perimeter of polygons?
- Can students find the area of polygons?
- Can students estimate the size of an angle?
- Can students identify acute, obtuse, and right angles?
- Can students communicate solution strategies?
- Do students demonstrate fluency with the subtraction facts?

Unit Literature

- *Spaghetti and Meatballs for All!* Marilyn Burns
- *Sir Cumference and the Great Knight of Angleland,* Cindy Neuschwander

Unit Software

- *Carmen Sandiego Math Detective* provides practice with math facts, estimation, ordering numbers, and word problems.
- *The Factory Deluxe* promotes spatial reasoning and practice finding area.
- *Graph Master* allows students to collect data and create their own graphs.
- *Ice Cream Truck* develops problem solving, money skills, and arithmetic operations.
- *Kid Pix* allows students to create their own illustrations.
- *Logo* is a drawing program that helps students develop spatial reasoning and an understanding of coordinates while making shapes.
- *Math Arena* is a collection of math activities that reinforces many math concepts.
- *Math Mysteries: Whole Numbers* is a series of structured word problems dealing with whole numbers.
- *Mighty Math Number Heroes* poses short answer questions about fractions, number operations, polygons, and probability.
- *Number Facts Fire Zapper* provides practice with math facts in an arcade-like game.
- *Number Sense-Puzzle Tanks* develops logical thinking while practicing math facts.
- *Shape Up!* is a geometric program that contains five sets of shapes that students can manipulate and explore.
- *Ten Tricky Tiles* provides practice with math facts through engaging puzzles.

Websites to Explore

- Rainforest Math – Click on level D or E and choose "Data," "Area" or "2D Shapes" http://www.rainforestmaths.com/
- Gamequarium – Choose "Acute, Obtuse, and Right Angles" http://www.gamequarium.com/geometry.html

You Can Help Your Child

- Encourage your child to tell you about the imaginary city of Antopolis.
- Ask your child to identify acute and obtuse angles in your home.
- Ask your child what activities he or she put in a math porfolio.
- Find the area and perimeter of rooms in your house.
- Discuss what kind of jobs use area and perimeter (construction, etc).